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ABSTRACT

A language screening test and a standardized reading test were administered to 41 first grade children to determine if there was a significant correlation between language ability and reading achievement as measured by the tests. The tests were hand scored and the results analyzed using the Pearson product moment correlation. The findings indicated a significant relationship between language ability and reading achievement. (FL)

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LANGUAGE ABILITY AND READING ACHIEVEMENT OF FIRST GRADE CHILDREN

BY
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Submitted In Partial Fulfillment of the Requirements for the Master of Arts Degree in Reading Specialization

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CHAPTER I - INTRODUCTION

I STATEMENT OF THE PROBLEM

What is the relationship between children's language ability and reading achievement in first grade?

II HYPOTHESIS

There is a significant positive correlation between children's language ability and reading achievement in first grade.

III SIGNIFICANCE OF THE PROBLEM

At the beginning of the school year, classroom teachers find themselves in a dilemma regarding the classification of students for reading instruction. The finding of this study can assist the classroom teacher with an efficient means of identifying the children who have language deficits and who need additional language skills.

IV DEFINITIONS

Reading Achievement

Scores achieved on The Gates-MacGinite Reading Tests (1978).

Language Ability

Scores achieved on The Bankson Language Screening Test (1977).

Expressive Language

The output or response of the child; speech, writing motor or action.

Receptive Language

Sensory imput; visual, auditory, kinesthetic, tactile, sensation or recognition.

V ASSUMPTIONS

It is assumed that The Bankson Language Screening Test was administered under the best possible conditions and provides reliable results and valid language ability scores. It is further assumed that The Gates-MacGinite Reading Test provides reliable results and valid reading ability scores.

VI LIMITATIONS

The children participating in the study are in the first grade at Sacred Heart School, Bloomfield, New Jersey. The classes are small in size; they are not randomly selected and there are no IQ scores available.

VII DELIMITATIONS

The results of this study would apply to this sample population only.

CHAPTER II - REVIEW OF LITERATURE

Significant differences between the Verbal Group and the NonVerbal Group were discovered in reading achievement in vocabulary and comprehension as reported by Compton (1972). One hundred forty children were selected for the subjects representing twenty-three first grade classrooms in the state of Virginia. The findings of this study support the theory that a child's ability to express his ideas verbally will be a valuable asset to his performance in learning to read.

Chomsky (1972) examined the relationship between the children's exposure to written language and the rate of linguistic development. Thirty-six children between the ages of six and ten were tested. The results showed a strong correlation between a number of the reading exposure measures and language development. These findings may have practical implications with regard to language programs in the elementary schools. Given the small sample size and the fact that most of these relationships were observed for the first time, the data should be considered as merely suggestive. Further testing with larger groups would be necessary.

Ebert (1975) randomly selected sixty-five black second grade students in two Texas schools, to discover the degree of relationship between a number of possible

predictor variables including oral language, sex and socio-economic status and reading achievement. Multiple correlations were obtained between the predictor set and each of the four reading tests. All of the multiple correlations were highly significant. The last procedure involved dropping each of the predictors, one at a time, to ascertain the independent contribution to the multiple correlation. Grammar was significant for three of the four reading tests.

Twenty non-readers were selected from first grade children in the Merrick, New York public schools. The language dictated by beginning readers in the first grade was examined in order to compare ten characteristics with the total number of miscues produced when children were asked to read a standard selection from a basal reader later in the school year. The following conclusion appeared to be supported by the findings. Four characteristics of beginning first graders' dictated language appear to be helpful in predicting the success children will have in recoding basal material orally, later in the school year. The four characteristics were (1) percentage of T-units under nine words, (2) mean number of words per T-unit, (3) number of sentence-combining transformations per T-unit, and (4) type/token ratio (Wood, 1974).

Surely one of the most quoted longitudinal studies involved 211 kindergarten children for a period of thirteen

years. The study was initiated in 1953 with pupils carefully selected as a representative cross section of children then entering th public school system of California. It proposed that "those superior in oral language in kindergarten and grade one before they learn to read and write are the very ones who excel in reading and writing by the time they are in 6th grade." He concluded that those children who rank high in general language ability, rank high in reading. Those children who rank low in general language ability, rank low in reading (Loban, 1976).

Farrell (1974) in an attempt to investigate the predictive relationship between language measures and Grade 1 reading achievement, administered a battery of oral language tasks and two standardized reading tests to eighty-six Montreal children. Results indicated that a selection of four language tasks predicted reading proficiency at a significant level. Findings favored structured tests over free speech samples as better predictors.

Fox (1976) cited studies in which a positive relationship was found between oral language and reading. These studies reported some correlations, however, not to the extent that one would wish, that the idea of greater linguistic sophistication facilitates reading achievement. She further contended that oral language and reading are but two kinds of symbolism. Oral language is an agreed

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upon sound system which codes and identifies objects in our environment. The written system of language is a symbolization of speech. Oral language occurs prior to reading achievement. Reading may be performed orally, therefore it would appear that oral language should influence reading success. She concluded that oral language ability may be considered a basis for developing reading skills.

One hundred eighteen sixth grade children, from four classrooms, in one school in Victoria, British Columbia were subjects in the following study. The purpose was to investigate the relationship between children's performance, in the receptive language act of reading and the expressive language act of writing. Of the thirteen language indicies used as predictors, four contributed significantly to the prediction of reading achievement. Fluency in language appeared to be the single most important factor of success in reading. The evidence further suggests that both reading and writing use certain language skills in common and that the presence of these skills should result in better performance in both reading and writing (Evanechko et al, 1974).

Brittain (1970) conducted an investigation of the relationship between reading success and language control. The subjects included fifty-six first graders and fifty-two second graders, drawn from two schools in a suburban community in Northern Virginia. Correlation analyses did reveal a significant relationship between inflectional

performance and reading achievement. The relationship was significantly higher at the second grade level than at the first. Possible explanations for the strength of this relationship are suggested. It is not clear as to whether semantic or grammatical information is more important for reading comprehension. Probably both are relevent. This finding has both linguistic and psychological relevance for beginning instruction. Certainly the careful appraisal of children's linguistic status should be prerequisite to the initiation of formal instruction in reading.

Ryan et al. (1977) investigated the relationships between various aspects of linguistic awareness and early reading ability. Ten male and ten female children were drawn from the first and second grades of a Midwestern parochial school for experiment number one. Twenty-two third and fourth grade children, from a Midwestern public school participated in experiment number two. In both experiments, performance on all linguistic awareness tasks except one, reflected a substantial advantage of better readers over poorer ones. The failure of the Word Tapping Task to relate to reading level is discrepant with earlier findings. Further research is needed.

Hamill and McNutt (1980) in a survey of twenty journals on psychology, reading, special education and speech for the years 1950-1978 selected eighty-nine suitable studies. They were included if they had at least twenty

subjects at one grade level. It was reported that measures of oral expressive language have a low relationship to reading, whereas measures of oral receptive language have a somewhat stronger relationship. However, this review focused only on hypothetical constructs of language processes and their relationship to reading; specific tests or subtests were not studied.

Bougere (1969) looked at aspects of oral language to determine their predictive power on children's reading achievement at the end of first grade. Her sixty subjects were selected from a Chicago suburb. While she found that none of her measures of oral language maturity could substantially predict reading success, she indicated the need for a continuing search for reliable language measures and for reevaluation of the adequacy of standardized measures of first grade reading achievement. She did discern that the Metropolitan Reading Readiness Test's predictive power could be increased by adding oral language factors of vocabulary range and syntactic maturity. The problem of oral language reading relationships is extensive, vital and not yet understood.

Gray et al. (1980) in a study of seventy-four five and six year olds enrolled in preschool programs in Texas, found little relationship between oral language proficiency and school readiness. The sample was nonrandom and chosen on the basis of the children's availability for extensive

testing. The subjects' intelligence quotients ranged from sixty-three to 154. It was suggested that the effects of the IQ scores were significant determinants of the subjects' performance.

Shepherd (1973) proposed to study the syntactical structure of the oral language of the pre-first grade child as an accurate predictor of reading readiness. The oral language of two groups of kindergarten children in interaction with an adult was compared. One group was Black, the other Caucasian; both were from inner-city schools. Significant positive relationships were not found. The study suggested the need for awareness on the part of the teacher of the danger of misinterpretation of the child's language development.

Hensley (1974) in a study of forty-five first graders, in a southwest Mississippi school system, investigated the possible relationship of selected oral language to reading achievement. There was an attempt to determine which factors discriminated good, average and poor reading groups. It was concluded that beginning reading achievement may be more of a perceptual activity rather than a linguistic activity. If a child is proficient in the ability to auditorily and visually discriminate among presented stimuli, the child may be able to use language and then succeed in beginning reading.

Rich (1973) attempted to determine whether or not

oral language assessment is a predictor of reading achievement. One hundred twenty-two Spanish and seventy-six Black third graders from five different elementary schools in the San Antonio School District participated. Findings of the study are as follows: (1) results varied, depending on which of the two populations sampled was under consideration and which of the seven reading achievement variables was used; (2) correlation coefficients ranged from moderately low to moderately high; (3) when each variable was considered separately in a regression model, the Teacher Score was the only variable that made a significant independent contribution.

Mahaffey (1975) in a study of sixty first graders from two socio-economic levels showed no statistically significant relationships between three oral language measures and the two reading achievement measures. This investigation pointed up the need for seeking other measures of oral language competency, extending similar investigations over several grades for a longer period of time, and conducting experimental rather than correlational studies.

Moe et al. (1977) in a study of different socio-economic status children entering first grade concluded that the oral language measure shows a wide variance for the group of seventy-four children while results of the reading achievement do not. A factor that may account for this difference is that most of the subjects had been in formal

reading instruction for only eight months, whereas they had been actively using oral language for over sixty months. Therefore, the more capable children had not yet had an opportunity to really excel.

Of the eighteen studies reported, ten showed positive relationships whereas seven showed no positive relationships. One study reported a low relationship between oral expressive language and reading and a somewhat stronger relationship between oral receptive language and reading.

CHAPTER III - DESIGN OF STUDY

I PROCEDURES USED

A language and reading test were administered to forty-one children in the first grade. The tests were then hand scored and the results analyzed using the Pearson product-moment correlation, to determine if there was a significant correlation between language ability and reading achievement as measured by these tests. An analysis of the language test determined the children who were most certain to be enrolled for clinical language instruction, as opposed to those for whom a classroom enrichment approach may be appropriate.

II SOURCES AND METHODS

The Bankson Language Screening Tests were administered individually, before school, during recess and lunch time, during the month of October, 1981. The numbers of correct expressive language responses were added to assign a raw score to each student. The Gates-MacGinite Reading Tests were administered in the middle of October to the groups on two separate days, during class time. The total raw score was calculated for letter sounds, vocabulary, letter recognition and comprehension for the reading tests.

III DESCRIPTION OF DATA - GATHERING INSTRUMENTS USED

The Basic R level of The Gates-MacGinite Reading Tests are designed to serve the needs of the many programs for which evaluation of reading achievement is required, both at the beginning and the end of first grade. The test is not only a measure of the general level of reading achievement; it also can be used to identify particular reading skills that individual children or groups of children still need to learn.

As reported in the manual, alternative forms and Kuder-Richardson Formula 20 reliability coefficients were computed for each test level. The K-R 20 coefficients ranged from .90 to .95 for vocabulary and from .88 to .94 for comprehension.

The following steps were taken to assure test validity: (a) vocabulary words were selected from a special study of words from recognized lists frequently used in school reading materials; b) items testing decoding skills were developed on the basis of a special study of decoding skills taught in sixteen commonly used series for Grade 1, 2 and 3, (c) comprehension passages were chosen according to a plan that specified the proportion of natural science, social science, humanities and narrative materials for each test.

Standardization was carried out in October 1976 and May 1977. The number of students in each of these

samples was approximately 5,800. The norming samples were obtained from a stratified sampling design based on the Fourth Count of the 1970 U.S. Census. The sampling plan stratified the districts on four variables: graphic location, enrollment size, family income and years of schooling completed by the adult population. The sample was chosen to include representative proportions of Black and Hispanic people. The two forms of Basic R were equated and the norms were also equated to the norms for Level A and B tests through equipercentile calibrations.

The Bankson Language Screening Test was developed to provide a means by which a number of psycholinguistic as well as perceptual skills could be surveyed in children in a relatively short period of time.

Reliability of The Bankson Language Screening Test was determined in two ways. Test-retest reliability was assessed by administering the test to a group of seventy children two times, with second testing occurring one week after the original testing. Point-to-point reliability for all items was established at the .94 level. The Kuder-Richardson 20 test indicated a .96 over all reliability index.

Concurrent validity of The Bankson Language Screening Test was determined by comparing the scores of seventy children with their performances on three other widely used language tests. Pearson product-moment cor-

relations between The Bankson Language Screening Test and the other tests were calculated as follows: 1) The Bankson Language Screening Test and the Peabody Picture Vocabulary Test - r=.54, 2) Bankson Language Screening Test and the Boehm Concept Test - r=.62, and 3) Bankson Language Screening Test and the Test of Auditory Comprehension of Language - r=.64.

The test was normed on 637 children between the ages of 4.1 and 8.0 years living in semi-rural counties adjacent to the Washington, D.C. metropolitan area. These classes were selected as representative of the socio-economic levels present in this geographical area. Eighty percent of the children were white, eighteen percent black, and two percent from other nationality groups.

CHAPTER IV - PRESENTATION AND ANALYSIS OF DATA

The Pearson product-moment correlation r = .55 was moderate and significant at the .01 level (Appendix A.) There was a significant positive correlation between children's language ability and reading achievement in first grade for this sample population of forty-one children.

The maximum raw score was 153 in The Bankson Language Screening Test. The scores ranged from seventy-four to 136. The maximum raw score was fifty-four in The Gates-MacGinite Reading Test. Scores ranged from ten to thirty-seven.

It was determined that thirty-two percent of the children in the study scored at the thirtieth percentile or below, and are in need of further language assessment. Fifteen percent of these children scored at the fifteenth percentile or below and are most certain to be enrolled for clinical language instruction. Seventeen percent scored from the sixteenth through thirtieth percentile, therefore a classroom enrichment approach directed to specific linquistic weaknesses may be appropriate (Appendix B).

It was interesting to note in The Bankson Language Screening Test that ninety-five percent of the first graders missed item number thirty-five and ninety-three percent missed item number thirty-six. The children were asked to name two appliances and two means of transportation, respectively. This was found in Part One: Semantic Knowledge,

D. Categories.

Also worth mentioning were the items numbered fifty-five through sixty, in Part One: Semantic Knowledge, G. Colors/Quantity. Eighty-eight percent of the children correctly identified the color red, ninety-eight percent blue, ninety-eight percent yellow, 100 percent green, ninety-eight percent purple and 100 percent orange.

One of the hardest categories in The Bankson Language Screening Test was Part One: Semantic Knowledge, H. Opposites. The child was given a word to which he or she was to respond with the opposite. The words giving the most trouble were first, easy, near, heavy and least.

Another difficult category was Part Two: Morphological Rules J. Verb Tenses. Three pictures were shown to a child as part of a sentence was read. The child was then asked to finish the sentence with the correct present progressive tense. An example from this section was: He likes to swim. In this picture he _____ (is swimming). Sixty-one percent of the children answered items number eighty-two and eighty-three incorrectly. Sixty-six percent missed item number eighty-three.

CHAPTER V - SUMMARY AND CONCLUSION

I RESTATEMENT OF THE PROBLEM

What is the relationship between children's language ability and reading achievement in first grade?

II DESCRIPTION OF PROCEDURES USED

A language and reading test were administered to forty-one children in the first grade. The tests were hand scored and the results analyzed using the Pearson product-moment correlation, to determine if there was a significant correlation between language ability and reading achievement as measured by these tests.

III PRINCIPAL FINDINGS AND CONCLUSIONS

The Pearson product-moment correlation r=.55, was significant and moderate at the .01 level. This supports the hypothesis that there is a significant relationship between language ability and reading achievement for the first graders in this sample population. Therefore, it is important that home and school develop a child's language ability to prepare for a successful reading experience. Correlation shows relationship; it does not however show cause.

IV RECOMMENDATION FOR FURTHER RESEARCH

This study should be replicated with a larger population. A random selection could be used and IQ scores provided.

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APPENDIX A

Pearson Product Moment Correlation: Gates & Bankson Scores

Student	Gates X	Bankson Y	X^2	Y^2	XY
1	23	91	529	8281	2093
2	15	99	225	9801	1485
3	14	93	196	8649	1302
4	35	119	1225	14161	4165
5	27	134	729	17956	3618
6	22	118	484	13924	2596
7	18	133	324	17689	2394
8	29	124	841	15376	3596
9	27	108	729	11664	2916
10	28	135	784	18225	3780
11	25	104	625	10816	2600
12	30	133	900	17689	3990
13	29	133	841	17689	3857
14	19	74	361	5476	1406
15	26	105	676	11025	2730
16	28	123	784	15129	3444
17	19	76	361	5776	1444
18	25	133	625	17689	3325
19	28	136	784	18496	3808
20	26	123	676	15129	3198
21	19	121	361	14641	2299
22	23	115	529	13225	2645
23	27	132	729	17424	3564
24	37	118	1369	13924	4366
25	22	117	484	13689	2574
26	25	117	625	13689	2925
27	20	110	400	12100	2200
28	26	124	676	15376	3224
29	21	123	441	15129	2583
30	21	93	441	8649	1953
31	24	127	576	16129	3048
32	10	90	100	8100	900
33	17	85	289	7225	1445
34	30	116	900	13456	3480
35	17	120	289	14400	2040

Student	Gates X	Bankson Y	X^2	Y^2	XY
36	22	104	484	10816	2288
37	24	100	576	10000	2400
38	28	125	784	15625	3500
39	20	115	400	13225	2300
40	24	124	576	15376	2976
41	31	126	961	15876	3906
	X981	Y4,696	X^2 24,689	Y^2 548,714	XY114,363

N=41

$$r = \frac{\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{n}}{\sqrt{\left(\Sigma X^2 - \frac{(\Sigma X)^2}{n}\right)\left(\Sigma Y^2 - \frac{(\Sigma Y)^2}{n}\right)}}$$

$$= \frac{114,363 - \frac{(981)(4696)}{41}}{\sqrt{\left(24,689 - \frac{(981)^2}{41}\right)\left(548,714 - \frac{(4696)^2}{41}\right)}}$$

$$= \frac{114,363 - \frac{4,606,776}{41}}{\sqrt{\left(24,689 - \frac{962,361}{41}\right)\left(548,714 - \frac{22,052,416}{41}\right)}}$$

$$= \frac{114,363 - 112,360.39}{\sqrt{(24,689 - 23,472.219)\ (548,714 - 537,863.8)}}$$

$$= \frac{2,002.61}{\sqrt{(1,216.781)\ (10,850.2)}}$$

$$= \frac{2,002.61}{\sqrt{13,202,317.}}$$

$$= \frac{2,002.61}{3,633.4992}$$

$$= .5511519$$

$$= .55$$

$n - 2 =$

$41 - 2 = 39$

Degrees of Freedom	5%	1%
35	.325	.418
40	.304	.393

There is a significant correlation at .01 level.

The correlation is moderate.

APPENDIX B

Percentile Ranks Corresponding to Raw Scores

Student	Raw Score	Age	%
1	91	6-3	8
2	99	6-8	22
3	93	6-3	8
4	119	6-3	56
5	134	6-6	96
6	118	6-2	35
7	133	6-7	85
8	124	6-0	79
9	108	6-7	26
10	135	6-9	85
11	104	6-1	18
12	133	6-4	96
13	133	6-8	85
14	74	6-5	-%
15	105	5-10	55
16	123	6-7	43
17	76	5-10	7
18	133	6-5	96
19	136	6-0	94
20	123	6-0	79
21	121	6-3	56
22	115	6-2	35
23	132	6-4	68
24	118	6-7	36
25	117	6-1	35
26	117	6-4	35
27	110	6-3	24
28	124	5-10	79
29	123	6-3	56
30	93	6-2	8
31	127	6-1	68
32	90	6-7	7
33	85	5-10	20
34	116	5-10	68
35	120	6-4	56
36	104	6-9	22
37	100	6-9	22
38	125	6-0	79
39	115	6-3	35
40	124	6-9	43
41	126	6-1	68